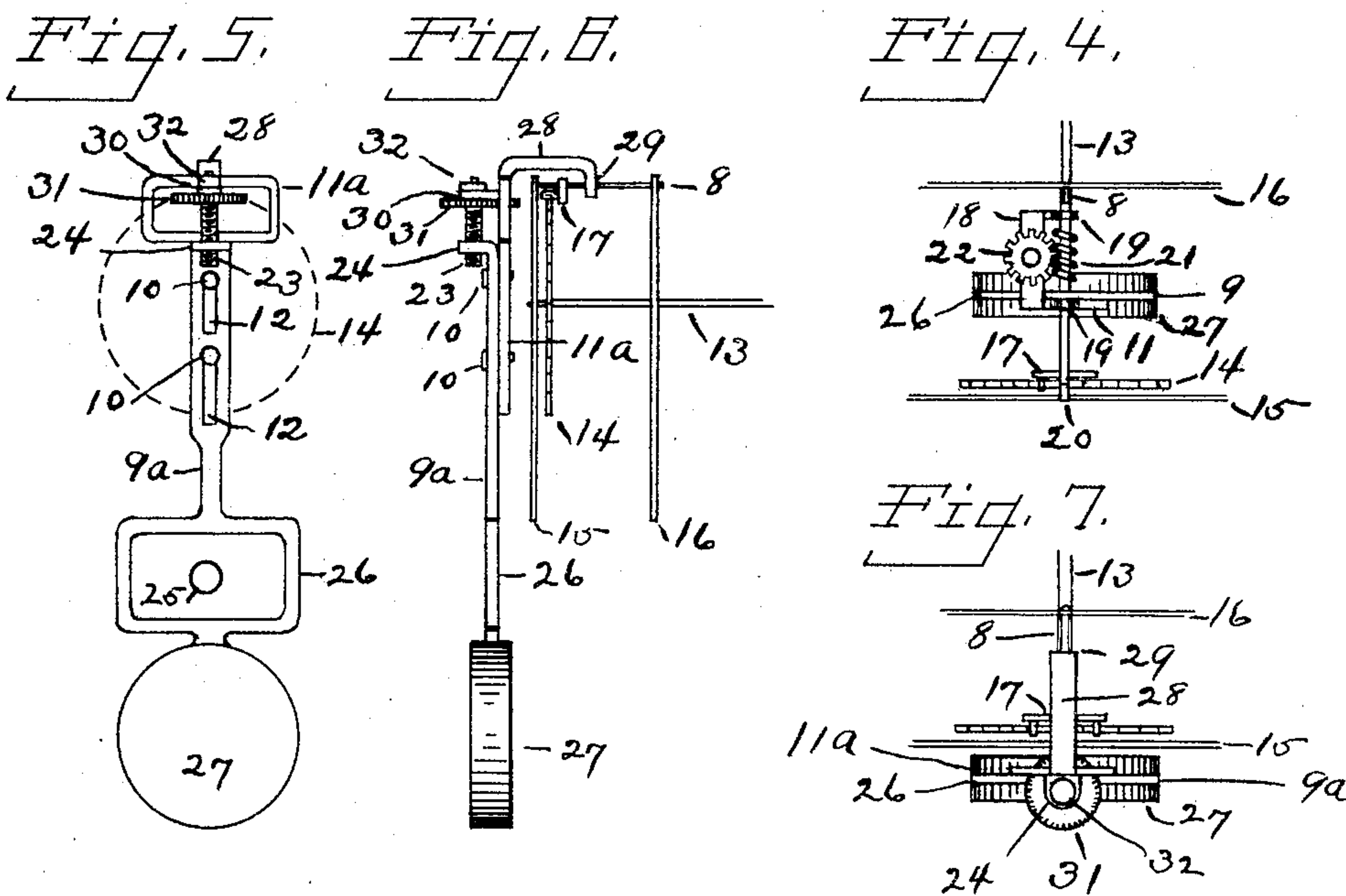
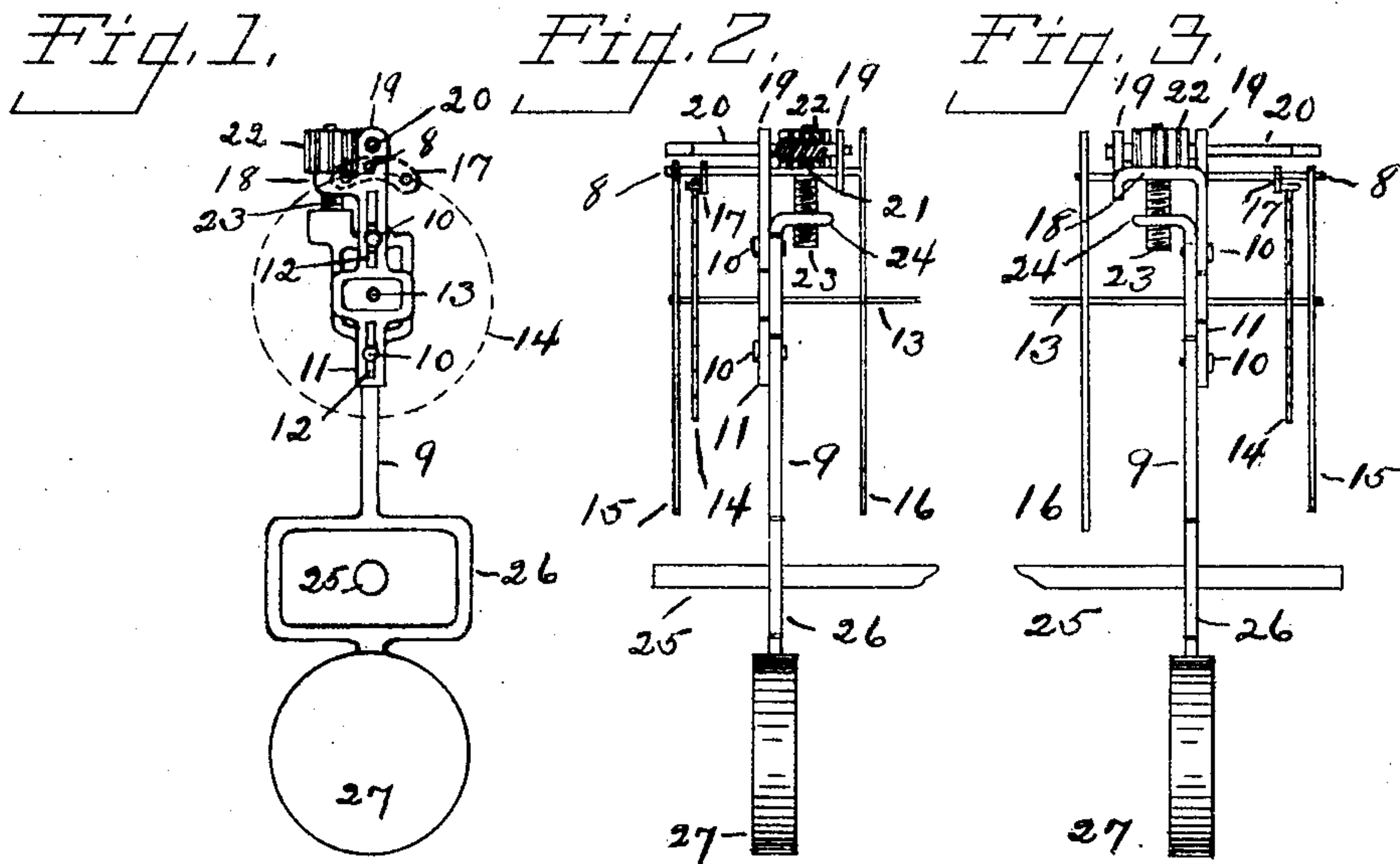


A. M. LANE.
PENDULUM REGULATOR.
APPLICATION FILED MAY 27, 1904.



WITNESSES.

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ALMERON M. LANE, OF MERIDEN, CONNECTICUT.

PENDULUM-REGULATOR.

SPECIFICATION forming part of Letters Patent No. 785,365, dated March 21, 1905.

Application filed May 27, 1904. Serial No. 210,123.

To all whom it may concern:

Be it known that I, ALMERON M. LANE, a citizen of the United States, residing at Meriden, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Pendulum-Regulators, of which the following is a specification.

My invention relates to improvements in pendulum-regulators for clocks; and the main objects of my improvements are convenience of adjusting and efficiency in use.

In the accompanying drawings, Figure 1 is a front view of my pendulum, together with a diagrammatic view of so much of the clock as is necessary to show its connection therewith. Fig. 2 is an edge or side view of the same, showing the right-hand side. Fig. 3 is an edge or side view of the same, showing the left-hand side. Fig. 4 is a plan view of the same less the center arbor. Fig. 5 is a view substantially corresponding to Fig. 1, but showing a modification. Fig. 6 is a side elevation thereof less the center arbor. Fig. 7 is a plan view of the same.

The pendulum is of the suppressed crutch or wee-wag type and is mounted directly on the pallet-shaft 8, which shaft forms the pivot of the pendulum. The pendulum is mainly in two parts, arranged to slide one upon the other within any suitable guides or ways, the same, as herein shown, being formed by a pin-and-slot connection, one part having guiding-slots for the pins and the other part bearing the pins, which are headed at one end, extend through the slot or slots in the companion part into the part on which they are mounted, and secured in any ordinary manner. It is immaterial which part bears the pins; but as shown the lower part 9 bears the pins 10, while the upper part 11 of the pendulum has the slots 12 for the said pins. The shaft 13 for the escapement-wheel in Figs. 1 to 4 is mounted in any suitable manner below the pallet-shaft 8, and the said escapement-wheel 14 (indicated only by a broken-line circle in Fig. 1) is mounted between the two movement plates or part plates 15 and 16, the said plates also furnishing the bearings for the pallet-shaft 8. The pallet arm or plate 17 and its pallets are or may be of any ordinary

construction, the same being shown by broken lines in Fig. 1, so as not to hide the other parts. The upper part 11 of the pendulum is provided at its top with a bracket-frame consisting of substantially a horizontally-arranged lug or shelf 18 and two lugs or ears 19, connected by the said lug 18, while through the lower portion of the lugs or ears 19 the pallet-shaft 8 extends and is rigidly secured, whereby the said upper part 11 of the pendulum is mounted on the said shaft 8. A worm-shaft 20 and worm 21 are mounted in the lugs or ears 19 just above the pallet-shaft 8, with the said worm in engagement with the worm-wheel or pinion 22 on the upper end of the adjusting-screw 23, the said screw being supported at its upper end by the lug or shelf 18 of the bracket-frame and with the pinion resting thereon. The said worm-shaft may be flattened or square at its front end for the application of a proper key for turning the said shaft. The lower part 9 of the pendulum has the ball or bob 27 at its lower end and rigid therewith. The upper end of the said lower part 9 has a horizontally-turned ear 24, in which is a threaded hole or nut for the adjusting-screw 23.

As shown in Figs. 1 to 4, the pendulum is mounted between the two plates 15 and 16, while the pallet and escapement-wheel shafts are arranged to cross the plane in which the pendulum swings. In order that the pendulum may clear the latter shaft 13, I form both parts 9 and 11 with an open enlargement, through which the shaft 13 passes and in a manner so obvious as to require no further explanation.

Although I do not wish to limit my pendulum to any particular length, it is intended to be mainly arranged within the circle of the dial or its sash, as will be seen by the location of the center arbor or pointer-shaft 25, diagrammatically illustrated in the drawings and requiring the open enlargement 26 in order to enable the pendulum to swing without being obstructed by the said arbor.

The adjusting devices, the worm, pinion, and screw are arranged in proximity to the pivot of the pendulum at the upper part of the clock-movement, so that they may be directly back of the upper portion of the dial.

A hole through the dial will permit the worm-shaft to be readily turned, whereby the lower part of the pendulum may be raised or lowered as the said parts slide one upon the other
 5 to adjust the pendulum. By means of the worm and wheel a micrometer adjustment is effected.

In Figs. 5, 6, and 7 I show the adjusting-screw without the micrometer mechanism and
 10 also with a pendulum that swings in front of the two plates 15 and 16 instead of between them. The lower part 9^a of the pendulum has the same lug or nut 24, with threaded hole to receive the adjusting-screw 23 and connect
 15 the two parts of the pendulum, and I form the slots 12 for the pins 10 in this lower part instead of in the upper part, as before described. The upper part 11^a has a bridge 28 and leg 29, by which it is mounted on the pallet-shaft 8,
 20 as best shown in Fig. 6. It also has a bracket-ear 30, through which the adjusting-screw 23 passes, the said screw being held in place by the knurled disk or head 31 below the said ear and a washer or nut 32 above the said ear, as
 25 shown in Fig. 6. Turning the adjusting-screw by means of its knurled head will raise or lower the lower part of the pendulum as in

the construction first described, only the adjustment is not so fine.

I claim as my invention—

1. A wee-wag pendulum comprising a pallet-shaft that serves as the pivot of the pendulum and two parts arranged to slide one upon the other in suitable guides, one part being rigidly connected to the said pivotal pallet-shaft, and adjusting devices connecting the
 35 said two parts and located at the upper end of the pendulum adjacent to the said pivot, for moving the said two parts one upon the other, substantially as described. 40

2. In a wee-wag pendulum, the combination of a two-part pendulum, with the pallet-shaft, a bracket-frame mounted on the said shaft and connected with the upper part of the said two-part pendulum, an adjusting-screw, worm-
 45 wheel, and a worm, mounted on the said bracket-frame, with the said screw in engagement with a threaded hole or nut on the lower part of the said pendulum.

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Witnesses:

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